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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

METZMAIER, DANIEL S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/623,005

Applicant(s)

KRAMER ET AL.

Examiner

Daniel S. Metzmaier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-26 are pending.

Claim Rejections - 35 USC § 112

1. Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants fail to provide basis for the concept of the removable group containing all materials except the reactive build material and the curing agent. While applicants provide specific examples and the broad group of all materials, the specification as originally filed does not provide basis for the group of all materials except the reactive build material and the curing agent. See The failure to mention something in the specification is not justification for an exclusionary proviso.

Ex parte Grasselli, 231 U.S.P.Q. 393 (P.T.O. Bd. App. 1983).

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, it is unclear how applicants are “using” the removable material, e.g., to dilute, to solvate, to support, to harden, to dry, to texture, to color, to fill, ect..

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-19 rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al. (US 2004/0145088 A1). Regarding claims 1-7, 11, 13, 14, 18; Patel et al. disclose a system for free-form fabrication of solid three-dimensional objects, a method thereof, and a three dimensional object produced, comprising applying a first composition (section 0024) including a reactive build material (section 0047) and ink-jetting a second composition including a curing agent (section 0054) separately onto a substrate such that contact between the reactive build material and the curing agent occurs (sections 0049-0050), thereby resulting in a reaction that forms a solidifying composition, and repeating these steps to form a solid three dimensional object (section 0062). Patel et

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al. do not appear to specifically disclose ink-jetting the first reactive material. Patel et al do disclose adjusting the viscosity of the first reactive material to a viscosity included in the range of the viscosity of the ink-jetted curing agent (sections 0053-0054). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have ink-jetted the first reactive material because Patel et al. teach that the first reactive material can have a viscosity that would enable ink-jetting, and ink-jetting would save time and produce a more controlled coating, resulting in a higher quality product.

Regarding claims 8-10 and 15-17, Patel et al. disclose the instantly claimed reactive build materials (section 0047).

Regarding claims 12 and 19, Patel et al. disclose adding at least one colorant (section 0017).

7. Claims 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al. (US 2004/0145088 A1) in view of Russell et al. (6,375,874 B1). Patel et al., as applied above, are as set forth and incorporated herein. Patel et al. do not appear to specifically disclose a third and forth ink-jettable composition comprising the colors of cyan, magenta, and yellow. Russell et al. disclose a system and process comprising applying polymers by inkjet to produce a three- dimensional object, and that a typical inkjet printer is configured to deliver magenta, yellow, and cyan, so that when combined in various combinations and amounts, a variety of colors can be produced (col.11, lines 8-16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the commonly used colors of magenta, cyan,

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and yellow, as taught by Russell et al. in the system and process of Patel et al. because Russell et al. teach that using magenta, cyan, and yellow as colorants in polymers for the production of three dimensional objects through ink-jetting enables one to produce a variety of colors, resulting in a more versatile and higher quality product.

Response to Arguments

8. Applicant's arguments filed 25 July 2005 have been fully considered but they are not persuasive.

9. Applicants (page 9) assert that during the forming process supporting at least a portion of the solidifying composition using as a removable material that is other than the reactive build material or the curing agent. Applicants further assert Patel et al do disclose curing a layer atop of an uncured layer and removing the uncured layer.

This has not been deemed persuasive since Patel et al clearly contemplates materials within the layer materials that are other than the reactive build material or the curing agent, e.g., organic or inorganic filler, colloidal nanoparticles, dye, and/or surfactant ([0017], [0022] or [0053]). Said materials are other than reactive build material or the curing agent and are used in the uncured products, which as pointed out by applicants, are used as supports that are subsequently removed.

Furthermore, applicants' claims do not exclude the use of reactive build material or the curing agent in the uncured support and do not define what portion is supported , provided at least a portion is supported.

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10. Applicants' pages 9 and 10) arguments regarding the complexity of the three-dimensional build-up are not commensurate in scope with the claims. Furthermore, the claims broadly encompass the disclosure of the Patel et al reference.

11. Applicants (page 10) assert that claim 22 (and the claims dependent thereon) is patentable for the reasons asserted for claims 1 and 13. This has not been deemed persuasive for the reasons as addressed herein above.

12. Applicants' (pages 10 and 11) arguments regarding the use of cyan, magenta, and yellow colorant in the binder rather than in the as a powder. This has not been deemed persuasive since the references are taken together. The rejection is not based on the Russell reference alone. The Patel et al reference clearly contemplates the use of color in the liquid components and requires that said component be compatible with said liquid components as to reduce the presence of voids. The citation of the Russell reference for the conventional use of specified colors does not negate the teachings in the Patel et al reference.

13. Applicants (page 11) assert the Patel et al and Russell reference are not combinable. This has not been deemed persuasive since Russell is cited for the conventional use of specified colors does not negate the teachings in the Patel et al reference. Applicants have proffered no evidence that said coloring agents would not work in the Patel et al methods. Since said coloring agents are conventionally known in the art and clearly suggested in the Patel et al reference, one skilled in the art at the time of applicants invention would have had a reasonable expectation of success upon employing said coloring agents in the Patel et al processes.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel S. Metzmaier
Primary Examiner
Art Unit 1712

DSM